

THE ZOOLOGIST

No. 756.—June, 1904.

ORNITHOLOGICAL NOTES FROM NORFOLK AND THE EAST COAST OF ENGLAND FOR 1903.

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(PLATE II.)

As usual, "Norfolk Notes" refer largely to migration. This is the chief subject which impresses itself on the mind of any naturalist living on the east coast, and it is a strange sight in autumn to watch for the birds which have come in during the night, and, if there be a west wind, for those which will arrive in the morning. In this connection Mr. W. Eagle Clarke, during 1903, has made an experiment on a "floating light," which, although not on our coast, is well worth calling attention to.

Mr. Eagle Clarke remained on the Kentish Knock lightship, off the Essex coast, from Sept. 17th until Oct. 18th, and it is instructive to compare his observations ('Ibis,' 1904, p. 112) with those made during the same period by observers on the coasts of Norfolk and Suffolk. Mr. Clarke considered that the day migrations equalled those observed during night, but in Norfolk they are probably far inferior, except in the case of the *Corvidæ*, which are day migrants; but Mr. Clarke's statement shows how much there is still to be learnt. He is of opinion that immense numbers of birds are killed by contact with light-vessels which show a white light, and that many of the migrants avoid the force of the wind by flying close to the surface of the sea, which, in the case of the Sky-Lark, agrees with what I have observed off

Cromer. Ninety per cent. of the birds he saw were going from east to west, which again corresponds with observations made at Cromer, with which, of course, Essex must have much in common.

It does seem that the direction of the wind is one important key to the right understanding of migration on the east coast of England. An east wind blows birds here, but if too long delayed in Europe with a west wind, they will cross the North Sea with that rather than not at all, but then they do not arrive until daylight, or perhaps continue arriving all the morning. Also, as pointed out by Mr. Clarke, birds may often leave Norway and Denmark with a favourable wind, and be overtaken while *en route* by changes which become more and more unfavourable as they approach the English coast. To understand their movements one wants to know the wind on both sides of the North Sea, and this the Daily Weather Report issued by the Meteorological Office enables us to do.

Norfolk received two memorable importations during the autumn of 1903—that on Sept. 19th and 20th composed of an almost unprecedented number of small land-birds (Redstarts, Pied Flycatchers, Robins, &c.), and that of the *Corvidæ* on Oct. 19th and 20th, just one month later. The former movement was with a N.E. wind amounting to a gale, and the congested hord of birds was at its maximum at the usual points on the coast, *viz.* Blakeney and Wells in Norfolk, Humber-mouth in Yorkshire, Flamborough Head, and the mouth of the Tees (T. H. Nelson). Yet it must not be supposed that the rest of the coast with less suitable halting-places did not receive some of the band. The second migration was less remarkable, *viz.* the Rooks and Crows, which made land in October, with a moderate S.W. wind following on a high wind the day before from N.W.; just the same wind they came with last year. Our shore-gunners are so accustomed to look out for the approach of Rooks in October, and for their departure in March, that the annually recurring phenomenon has ceased to excite any remark. It is very probable that among these bands were some of the Grey Crows ringed at Rossiten, in East Prussia, by Herr J. Thienemann. From Rossiten to Norfolk is six hundred miles by the map. Thienemann says one hundred and forty-eight were released between



Oct. 9th and 14th, 1903; there would therefore just have been the right time for them to get to England. As the object is to trace their migrations, anyone obtaining a Crow with a ring on its leg is requested to communicate with Herr Thienemann.

The number of birds of prey was above the average during the autumn, including some Buzzards. Mr. Nelson has tabulated the great migration of Rough-legged Buzzards into Yorkshire in October, only the fringe of which reached Norfolk, preceding by a few days the arrival of the Rooks, and the returns will no doubt be published; also particulars of the flight of Sabine's Gulls in September.

Besides the above there was a notable incursion of Waxwings into Norfolk (already alluded to by Mr. Tuck), commencing about Oct. 21st, but evidently reinforced by later comers until Christmas or later. This has been a larger migration of Waxwings than that in January, 1893. It is now certain that severe weather in this country has nothing to do with the advent of the Waxwing, whatever may be the case when they appear in flocks abroad. The Waxwing is simply a late winter visitant, but nearly every year there are migrations of Woodcock, Snipe, Blackbirds, Bramblings, Hawfinches, &c., quite as late, arriving up to Christmas and beyond it, and we merely do not think them remarkable because they are common species, and generally with us.

The rarities for 1903 were:—January, Sea-Eagle; April, twenty Nyroca Ducks; May, Roseate Tern, six Spoonbills; June, Avocet; July, Porphyrio; August, Glossy Ibis; September, Aquatic Warbler, two Icterine Warblers, several Bluethroats, ? Sabine's Gull; October, Waxwings, Roller.

In these Notes the direction and force of the wind is taken, unless otherwise stated, from the Daily Weather Reports issued by the Meteorological Office for Yarmouth (as marked by the recorder at 8 a.m.). It must be borne in mind that the direction of the wind at Yarmouth is not always quite the same as on the north coast of Norfolk—as at Wells, for instance. Even between Keswick (Norwich) and Yarmouth the difference is more than would be expected, and these differences may often account for a good deal.

The rainfall for 1903 (as kept at Keswick by Mr. Edward

Knight) was 31.18 in.—a decidedly wet year—the wettest month being July, and the driest February; but rain does not seem to have very much bearing on migration. The fall during the four migratory months was:—August, 3.23 in.; September, 2.96 in.; October, 4.86 in.; November, 1.83 in.

The following is the year's diary for 1903:—

JANUARY.

1st.—Frost. Hen-Harrier at Hickling (M. C. Bird).

5th.—A Shag caught at Yarmouth (A. Patterson); certainly a commoner species with us than it used to be. Bean-Goose shot near Aylsham.

8th.—Nine White-fronted Geese identified on Breydon Broad, and about this time, or later, Mr. Southwell was informed that there were a good many at Holkham and Wells.

9th.—A Pink-footed Goose shot at Siderstrand (Hoare).

13th.—Mr. Pashley reports a fine Iceland Gull at Cley, and several Merlins.

30th.—A Sea-Eagle seen on the Broads (M. Bird), and afterwards at Melton (Dack), and a Buzzard about this time at Rollesby.

FEBRUARY.

9th.—The Sea-Eagle, shot at Ipswich (H. Hudson in the 'Field'), a young bird, as usual.

10th.—Redshanks returned to the Broads (M. Bird). This pretty wader, though not so abundant as formerly, still holds its own.

13th.—Two Lesser Spotted Woodpeckers at Twyford (C. Hamond).

18th.—Frost, but no wind. A flock of several hundred Linnets (*Linota cannabina*), as well as other smaller flocks, going S.W. at Neatishead, which is eight miles from the coast (M. Bird). See last year's note on the movement of this species in April, which is perhaps annual.

27th.—A "Coot-shoot" at Hickling Broad, but only lasting half a day, as the wind did not admit of shooting in the morning. Several Goosanders met with (G. Davies), probably the same seen by Mr. Bird on Jan. 31st on this fine sheet of water.

MARCH.

7th.—Mr. Bird reports early nests of the Thrush, Blackbird, and Wren, but I heard of two Thrushes' nests with eggs in them six weeks ago.

10th.—Mr. Robert Gurney repeatedly heard a Bittern on Sutton Broad, and again at intervals uttering its double groan until the 20th, when it left off "booming." The same, or another, let itself be heard at Hickling (Bird), and one was killed by a warrener's dog at Shadwell (W. G. Clarke), but of this I did not receive the date. They are rare birds now.

12th.—Greater Spotted Woodpecker "jarring."

17th.—Ringed Plovers beginning to nest (Bird).

18th.—Snipe gyrating in pairs; Bearded Tit singing.

20th.—W.S.W., 5, at Yarmouth; W., 2, at Keswick. Rooks and Grey Crows going south all day along the line of sandhills (Bird).

21st.—S.W., 5. Chiffchaff at Mulbarton (Dobbie). Cuckoo at Horsey on the coast (Bird). Great number of Knot at Hunstanton (Southgate).

22nd.—S.W., 5. Black Redstart at Lynn, and some days afterwards another at Yarmouth (W. Lowne).

24th.—Five Kestrels at Keswick circling very high in the air.

26th.—Swallow at Hickling.

27th.—House-Martin at Mundesley (Riviere).

28th.—Ray's Wagtail at Fritton (Upcher).

29th.—Eight Great Crested Grebes† in pairs on Fritton Lake. Cuckoo seen at Yarmouth by Mr. Patterson, its second appearance in March. [It was also heard in Dorsetshire on the 24th, and in Hampshire on the 30th.]

30th.—Three Redshanks' nests† at St. Olave's ready for eggs.

31st.—N.W., 6. A Ruff and two Reeves (Bird). First arrivals in the Broad district of this species, which still clings to its old haunts in spite of all opposition.

APRIL.

3rd.—A Bearded Tit's nest with three eggs (Bird).

4th.—W., 5. The keeper on our principal Broad reported to Mr. Bird the following arrivals: Eight Tufted Ducks, fourteen Ruffs and Reeves, some Golden-eyes, and a Bar-tailed Godwit;

and, a few days afterwards, more Ruffs, a pair of Garganey Teal, and three Gadwall; also two Pintail, and a Shoveler's nest of eleven eggs, which hatched out on the 30th. There were said to be one hundred and fifty Gadwall at Euston near Thetford (W. G. Clarke) this spring.

10th.—A pair of Scoters at Hickling (Bird).

11th.—W., 1, on Breydon Broad; W.S.W., 4, off Yarmouth. A Spoonbill on Breydon Broad—an old bird with a long crest—which remained on the mud-flats until the 30th (Jary). Subsequent data of the Breydon Spoonbills, as kept by Mr. Patterson and Mr. Jary, may as well be given now:—May 6th, S.W., on Breydon: one (which remained to 12th). May 14th, W.S.W., on Breydon: two (which remained to 17th). May 20th, W., on Breydon: six (seen at intervals until 29th, during which time they probably visited Blakeney). July 21st, N., 4, off Yarmouth: one. July 24th, E.S.E., 2, off Yarmouth: one. S.W., on Breydon: one. Twelve altogether; not such a large number as have sometimes visited us, but there is a bridge over the lower end of Breydon now, which has been recently finished, and probably disturbs the birds. The regularity with which this species has appeared during the past seven years is shown by the following dates:—

1897.	First Spoonbill appeared on April 20th.
1898.	" " " 8th.
1899.	" " " 16th.
1900.	" " " 28th.
1901.	" " " 12th.
1902.	" " " 20th.
1903.	" " " 11th.
[1904.	" " " 19th, Patterson.]

In time it may be hoped that it will not only be a regular spring migrant, but a breeder again. In Sir Thomas Browne's day (1636–1668) their annual arrival is noted as taking place in March, but even then they had forsaken Reedham Wood.

15th.—It was during April that Mr. Patterson announced in the 'Field' that there had been a notable visitation of the Nyroca, or White-eyed Duck. They either came in or divided themselves into two flocks, which together amounted to twenty, one flock going to Rollesby Broad, and the other settling, on the 15th, on Hickling Broad, where these strangers only too quickly

attracted attention. The presence of such a large number of this rare Duck at one time in England is curious, and it is to be regretted that they were not fully protected, and that some persons who ought to have known better molested them. Those at Hickling were all males showing the black collar, as I learn from Mr. Bird, who had a good view of two of them as late as the 29th. No such appearance of *Nyroca* Ducks has been put on record in East Anglia before, and it is to be feared there is little inducement for any to come again. Four were seen at the same time in the West Riding of Yorkshire, as mentioned by Major Arundel (*ante*, p. 33), and it seems possible that all had crossed the sea in one band.

16th.—Mr. Bird reports some Ruffs watched by the Broad keeper fighting, but according to my experience it is only play, which never results in injury.

24th.—A Garganey Teal's nest with ten eggs in it, accidentally spoilt by marshmen (Bird), perhaps the produce of the same pair mentioned on April 4th. The Garganey is a rare bird now, and the Spotted Crake is much rarer than formerly in Norfolk; so is the Teal, but the Water-Rail holds its own, and the Bearded Tit, now almost safe from the rapacity of dealers, is even increasing.

28th.—S.W., 1. Two Spoonbills seen at Hickling Broad by the keeper (Bird), but they do not appear to have visited tidal Breydon, a far more favourite resort.

29th.—Two *Nyrocas*, as already mentioned, seen by Mr. Bird.

30th.—Some time this month Yarmouth birdcatchers took a male Grey-headed Wagtail,† which, with a diet of mealworms and a warm room, was successfully kept by Mr. Lowne through the winter. A male Grey Wagtail with a black throat was also seen on the Denes by Mr. Lowne, not at all a common bird with us in that plumage.

MAY.

4th.—E.N.E., 1. Scoter (a female) on Whitesley Broad (R. Gurney).

5th.—S.S.E., 2. Three Black Terns on Breydon (B. Dye); others at Hickling. Scaup-Duck at Fritton (Buxton). Tufted Duck at Sutton (R. Gurney).

6th.—Tufted Duck at Hickling.

20th.—S.W., 3. About this date, I am informed by Mr. Pinchin, five Spoonbills appeared on Blakeney muds, and were seen at intervals in the channel and harbour for more than a week. The first time Pinchin saw them they were half-way up the Cley channel, which is not far from the nearest houses in the village. It is likely they were the same birds which about this time frequented Breydon Broad.

21st.—Mr. Bird saw a pair of Common Sandpipers on the Broads, and a Marsh-Harrier, and found two clutches of Grasshopper-Warbler's eggs, and the keeper found another Redshank's nest with five eggs. The following day a Green Sandpiper and two Black Terns were seen.

29th.—A Roseate Tern seen by Mr. Pinchin, the only one on our coast this year, but he was confident of its identity.

31st.—Seventy Terns' nests counted by our watcher.

JUNE.

6th.—E., fine and warm on Breydon; wind much stronger (force 4) off Yarmouth. "An Avocet came, but did not stop long; after having a rest for about a couple of hours he flew away again to the N.E." (George Jary). The wind the evening before was N.N.E.

12th.—First Lesser Tern's eggs hatched (Pinchin).

13th.—Seven or eight Black Terns seen at the mouth of the King's Lynn Cut by Mr. C. Cresswell.

14th.—First Common Tern's eggs hatched on the beach.

18th.—Visited a large settlement of Common Terns, some account of whose nesting operations is given farther on (*cf.* p. 216).

20th.—A Marsh-Harrier seen at Hickling by Mr. Kearton.

JULY.

1st.—A Porphyrio, presumably one of the green-backed kind, seen, but fortunately not shot, on Stalham Broad (Bird).

23rd.—S.W., 2. Mr. Jary, the Breydon watcher, counted eighty-two Curlew and Whimbrel in one flock on the muds, indicating a very large number of non-breeders. This was the wettest July there has been for a great many years; my rain-gauge registered 5.33 in., and another in the same parish 5.79 in.

AUGUST.

19th.—S., 2.

20th.—W.S.W., 1. A Glossy Ibis seen at Acle (B. Dye).

21st.—The Ibis† shot at Halvergate, near Acle, proved to be an immature male, exhibiting the usual white spots on the fore part of the neck.

25th.—A Solitary Snipe killed at Horning by Mr. Barclay; another shot later near Scole (Southwell), and a Reeve at Rollesby (Burnand).

SEPTEMBER.

1st.—S.S.E., 5. Hoopoe at Mautby.

2nd.—E., 4. Shag at Yarmouth (Patterson).

3rd.—W.S.W., 4. Sabine's Gull seen at Cley (R. Arnold). The same day one was shot in Yorkshire, where others also occurred.

7th.—Some Little Stints reported, and a Dotterel.

9th.—After a gale from N.W., Mr. R. B. Arnold noticed a large Gull hovering over something on the sand at Blakeney "bar," and, on going up, found a Manx Shearwater,† apparently unable to fly. Another was seen by Mr. Gunn, who also saw an Osprey.

14th.—N., 5. A Fork-tailed Petrel on Breydon Broad (Lowne).

18th.—E., 3, in the morning; N.N.E., 4, in the evening. A few migrants appeared in North Lincolnshire (Caton Haigh), but I saw nothing on the shore at Sheringham to prepare me for what was coming. An Icterine Warbler,† however, was shot at Blakeney, some seven miles further west, and some Redstarts seen. The wind at Yarmouth was as entered above, and it was practically similar at the same hours at the Skaw in North Denmark, at Cuxhaven in North Germany, and at Helder in Holland.

19th.—E., 5, at Yarmouth (N.N.E. the evening preceding). From the reports sent by Mr. Alexander Napier, of Holkham, Mr. Kay Robinson, and Mr. Pashley, it appears that from early morning a most unusual movement was in progress. From Brancaster to Salthouse, and especially among the herbage and bushes of Wells and Holkham sandhills, small migrants of the order Passeres were simply swarming. "More Pied Flycatchers and Redstarts," says Mr. Robinson, "arrived on the North

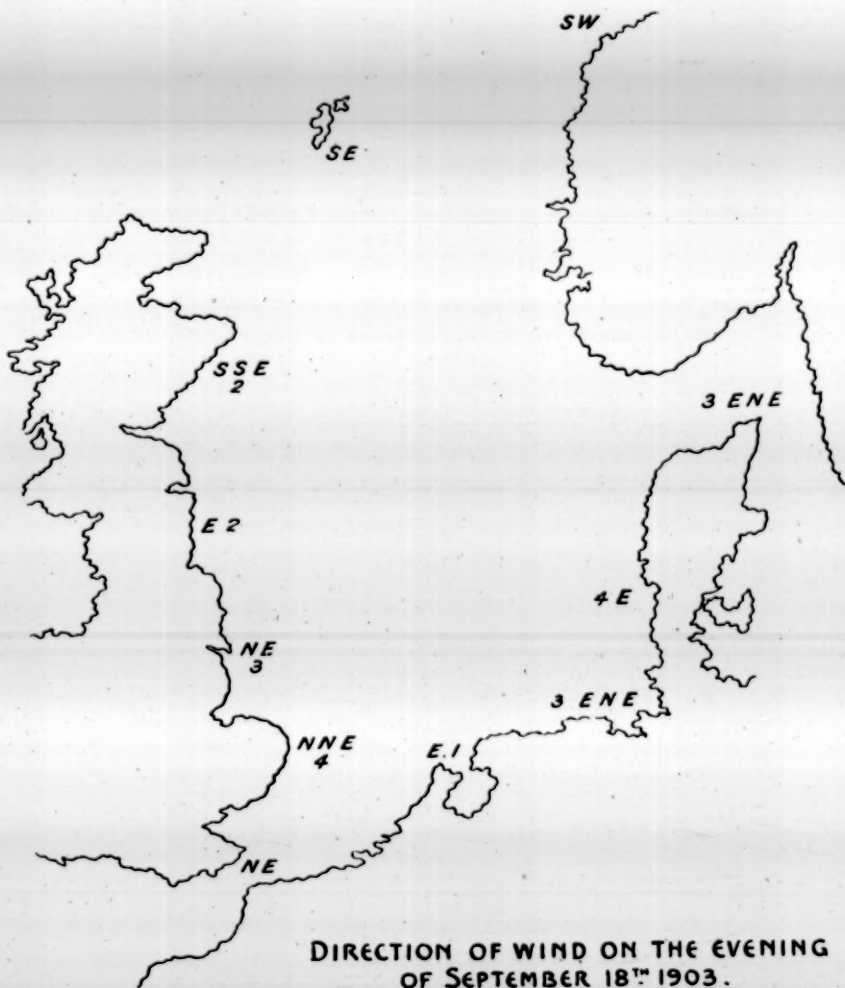
Norfolk coast in a day than I have seen in that neighbourhood during four years." Among the host were an Aquatic Warbler,



THE MIGRATION OF BIRDS ON SEPT. 19TH.

and four or five Bluethroats; but the bulk of the travellers consisted of Redstarts, Pied Flycatchers, Robins, Goldcrests,

Warblers, Whitethroats, &c., and in less quantity there were also Hedge-Sparrows, Spotted Flycatchers, Blackcaps, Wheat-ears, and Pipits, while overhead Mr. Robinson could see a few Rooks and Jackdaws and flocks of Gulls drifting inland. Such an extensive movement has not been witnessed for some time on our coast, and it is fortunate there were observers to watch it.



20th.—E., 5, at Yarmouth; E.S.E., 3, warm, at Keswick. Small migrants still on the coast in undiminished numbers, but not observed very much inland. Mr. A. J. Napier writes:—"I went down to the [Wells and Holkham] sandhills here, and the trees were simply alive with birds of every description—Red-starts, Whinchats, Robins, Pied Flycatchers, and many Warblers

I was unable to identify. It is not easy to identify in the thick bushes, but I certainly saw an Icterine Warbler."

In Lincolnshire the rush of migrants was as great or greater south of the Humber mouth, where it blew hard from E. with fog (Caton Haigh); while northwards the wave extended as far as Scarborough ('Zoologist,' p. 394), reaching to Durham ('Naturalist,' 1903, p. 459), and even slightly to the Northumbrian coast (G. Bolam).

At Teesmouth, Mr. T. H. Nelson tells me, there was also an extraordinary migration, consisting of the same species as in Norfolk, with the addition of Rock Pipits and a sprinkling of Stonechats. The "slag" walls at the south breakwater, he says, were alive with birds, and two Bluethroats were shot. Mr. Nelson ascertained that they were in abundance at Flamborough Head, and at Spurn Point also, where the travellers were seen by Mr. Loten and the lighthouse-keeper.

Southwards the invasion reached in a less degree to Harwich and the mouth of the Stour (F. Kerry), and to Essex (Eagle Clarke), but here its strength had evidently spent itself. I have been at some pains to ascertain how far this great line really reached, and only wish there were any means of correctly conjecturing the number of the birds which passed in those forty-eight hours. As the wind was from the east, it is likely that many of them came from the southern shores of the Baltic, crossing from the neighbourhood of Lubeck Bay to the mouth of the Elbe. The maps show the English coast affected—in extent more than two hundred miles—and the direction of the wind on both sides of the North Sea.

Here I would say a word on the increase of the Redstart. Besides the hundreds of Redstarts which every September pass along the coast of Norfolk, we have a considerable influx in the spring, and undoubtedly many more breeders than was the case twenty years ago, so that this species must be regarded as having considerably increased. All our small birds benefit by the systematic destruction of Stoats, Hawks, and Owls, as well as by the enforced quiet of the game preserve, and to this circumstance the increase of the Redstart may be due.

21st.—E., 6. By to-day the bulk of the migrants had passed on, but Mr. Haigh notified another reinforcement in North Lincolnshire.

22nd.—[Icterine Warbler seen off the Essex coast by Mr. Clarke.]

24th.—A Honey Buzzard at Northrepps, which, being captured uninjured, was kept alive for a time. Gadwall at Hunstanton (R. Clarke).

25th.—S., 2. Honey Buzzard shot at Sandringham ('The Field'), probably the same reported as from Wolterton by Mr. Clarke, who adds that an Osprey perched the same day on the mast of a boat at Brancaster.

26th.—W.N.W., 3. Honey Buzzard near Yarmouth (Lowne). Three Merlins seen at Wells by Mr. Napier.

28th.—W.S.W., 3. A young female Honey Buzzard shot at Stalham contained a wasp, some grubs, and a feather (Bird).

29th.—[A considerable movement observed by Mr. Eagle Clarke on the Essex coast, but it was unnoticed in Norfolk.]

30th.—Peregrine Falcon at Ormesby Broad (Lowne).

OCTOBER.

1st.—October set in with heavy rain and bad weather generally; in fact it rained on twenty-seven days out of thirty-one, although the greatest fall in twenty-four hours was only .85 (Knight).

11th.—[A great rush of birds was registered by Mr. Eagle Clarke from the lightship off the coast of Essex, but it was unnoticed in Norfolk and Suffolk.]

12th.—Rough-legged (?) Buzzard seen at Overstrand, and another about this time at Yarmouth. Hobby at Lowestoft (H. Bunn).

16th.—Rough-legged (?) Buzzard at Catfield seen going west (R. Gurney). [Twelve seen the same day in Yorkshire, 'Field.']

17th.—Rough-legged (?) Buzzard seen at East Ruston (Bird).

19th.—S.S.W., 3. To-day there was another migration, after a rather strong wind last night from the north-west. Straggling flocks of Rooks were arriving all day long, from 7 a.m. to 5 p.m., if not later, at short intervals, striking the coast, for the most part flying low with a slow wavering flight as if tired. Every flock passed inland as far as the eye could follow them, coming from N.E., and heading straight against the wind, which blew from S.S.W. With them I could see Jackdaws and a few Grey Crows, and occasional flocks of Starlings, and there may

have been Carrion Crows, but eighty per cent. were Rooks; also one or two flocks of Skylarks. Mr. Robinson reported in addition large companies of Lapwings at Wells, and hedges crowded with Blackbirds. In Northamptonshire a Hawk-Owl was shot, and perhaps it was in the same company that a Grey Shrike came over which was disturbed on Caister Denes making a meal of a Greenfinch† (E. Saunders), which it had impaled for that purpose. Similar arrivals of Rooks were watched on the same day at Warham (Robinson), Cromer, Overstrand, Siderstrand, Sutton (R. Gurney), Hickling, Yarmouth (Patterson and Dye), and even passing over Norwich (W. G. Clarke), so the extent of the flight was not small.

21st.—A Waxwing shot at Yarmouth. This was the first one, but small flocks must have continued to arrive until the end of the year, and even afterwards. According to the returns from different quarters of birds clearly identified, or birds shot [up to February, 1904], their presence was distributed as follows:—Nine in the Lowestoft district (Lowne and Bunn); twenty-four in the Yarmouth district (Lowne); thirteen in the Norwich district (Roberts); six in the Holt district; six in the Cley district; twelve in the Hunstanton district (Clarke).

In 1902 only a single Waxwing was reported for the whole county. This year I am glad to say there was a laudable inclination to protect the handsome aliens, at any rate on the part of some. A pair remained and were protected for several days in a shrubbery at Hanworth. For a short time there were four in the garden of the Naval Hospital at Yarmouth (Lowne). At Riverside House, Thorpe, a large rose trained over an arch was visited, and the Waxwings allowed themselves to be watched masticating the scarlet hips, the seeds of which I found dropped on the ground.

22nd.—S.W., 3. A female Roller at Gayton, near Lynn, perching on oak-trees in a turnip field, I am informed by Mr. R. Clarke, proved too tempting an object to be let alone.

23rd.—My son saw nine Norfolk Plovers at Hockham.

NOVEMBER.

1st.—A Water-Rail killed by contact with the Hasborough Lighthouse (Bird). Two Lapland Buntings reported at Yarmouth (Dye).

6th.—[About the 6th a Pekin Nightingale (*Liothrix lutea*)† was shot at Holkham on the marsh by the sea, and identified by Mr. Southwell. It showed no signs of confinement, but this is not an uncommon cage-bird. L'Abbé David calls it a very common species throughout the whole chain of the Himalayas and throughout southern China. The beautiful green and yellow tints were rather faded in this example.]

14th ?.—Fork-tailed Petrel† shot on Breydon (E. Saunders).

16th.—About this date Mr. H. Bacon saw a flock of Norfolk Plovers at Kelling, and some at Hindringham. Not many stay with us as late as November.

18th.—Forty-three Wild Swans—presumably Whoopers—flew over Sutton Broad, going N.W., and making a great noise as they flew (R. Gurney).

DECEMBER.

2nd.—Seventy Wild Swans seen at Hickling Broad by the keeper (Bird).

23rd.—An arrival of Woodcocks in the Cromer district, and an accession to the number of Blackbirds, which so often happens in December.

28th.—E., 6. A Fork-tailed Petrel—the third this year—caught on board a smack at Lowestoft during a gale from the east, and brought alive to Mr. Bunn.

30th.—As many as seven Hawfinches on my neighbour's lawn, and about twice that number announced on a lawn at Catton. If all these had recently crossed the sea, as may have been the case, so late a passage was unusual. For the last two years they have been scarce.

31st.—An Avocet,† seen at Aldborough, in Suffolk, by Mr. E. A. Pownall was unfortunately shot on the following day. Its presence was no doubt due to a gale from the east of several days' continuance, which on the evening of the 30th reached to force 8 at Yarmouth. There appears to be no previous mention of one in the eastern counties in December, but it has sometimes occurred in Ireland at that season. This storm-driven waif was in good plumage, and excellent condition, and formed the subject of an illustrated article by Mr. Patterson in 'The Daily Graphic.'

VARIETIES OF PLUMAGE.

A Robin with a white neck (Davey), a white Hedge-Sparrow at Dersingham (R. Clarke), a cream-coloured Starling at Cringleford, and five or six pied Blackbirds are varieties of no great account; nor was the white Swallow seen at Bixley on Oct. 14th very rare. Mr. Southwell has recorded two albino Moorhens, entirely white with pink eyes and yellow legs (Zool. 1903, p. 351). I am told their want of colour was detected when they were mere nestlings, and they were frequently seen and watched as they grew larger (W. Lowne).

NIDIFICATION OF THE COMMON TERN (*Sterna fluviatilis*).

The Common and Lesser Terns again had a successful nesting season at our chief station, and the Ringed Plovers also, thanks to the watcher put on by the local protection society, of which Mr. Q. E. Gurney is secretary, but the Oystercatcher, I am told, no longer nests there. Mr. Pinchin, who is in charge of these Terns, is confident that there were more than two hundred nests of *S. fluviatilis* with eggs in at one time. As many of the Terns doubtless breed twice, the total number of young ones brought off ought to have been about 1100, nearly every nest containing its clutch of three eggs lying snug in a wisp of grass.

Mr. Pinchin commenced watching on May 25th, on which day he found several eggs of the Lesser Tern, which on our coast lays rather earlier than *S. fluviatilis*, and generally apart from them. He tells me he found no young *S. fluviatilis* until June 14th, but by the 18th some of the young were runners, and many eggs on the point of hatching. Just at this time a warm sun is very helpful to the Terns. Unfortunately, instead of warmth, we had heavy rains, there being .64 in. in my rain-gauge on two occasions; and on the 18th we found two Lesser Tern nestlings and a Ringed Plover drowned, or dead from being uncovered.

The following are a few memoranda from my notes:—In the first place, mysterious squeaking can be distinctly heard inside the egg before it hatches. Then follows the act of exclusion, and the tiny occupant is to be seen breaking out of its own shell, now grown more and more brittle as the inner linings are absorbed by the young bird itself. The exit of the nestling Tern

takes place neck foremost; first the beak perforates a small hole, and then the bird's head and neck as they unfold press out a larger piece. But long before the young one has emerged the looker-on is lost in wonder as to how the nestling was ever kept in such a compass! As soon as it is liberated, the old Tern must remove the egg-shells, or they would be there. The eyes of a Common Tern are open from the instant of hatching, and by next morning it may, according to my informant Pinchin, have very likely crawled a yard or more. Indeed, the celerity with which all these young shore-birds acquire the use of their legs is astonishing, and a very great provision for their safety—evinced especially in the Ringed Plover.

The following statement affords an instance of this precocity: At 6 a.m. Mr. Pinchin observed a nest on the beach containing three eggs of the Common Tern, which he thought were near hatching, one of which was nearly white, and therefore very recognisable. At 2.30 p.m. he examined again, and the two normal eggs were hatched, but not the light-coloured one. At 4 p.m., when he took my son and self with him, the light egg was still unhatched, but the chirping of a young one inside it was quite audible. Beside it lay young one No. 2, whilst the third youngster had actually already crawled away to a considerable distance. The egg-shells belonging to Nos. 2 and 3 had gone.

There are few prettier sights than the view over a protected Terns' settlement. In Norfolk they are not content with a mere depression, generally making quite a respectable nest of grass-bents (marram, crab-grass, &c.), but with little idea of protection by colour; indeed, in some cases, the nests on the sand are most conspicuous, and it is a marvel how the eggs escape the Grey Crows and larger Gulls. In the Wells district Col. Feilden has told our readers that they chiefly employ the stems and last year's blossoms of the sea lavender. In Suffolk I have seen the white sea campion used.

At the beginning of July, Norfolk experienced a gale which I learn wrought some destruction in this Tern settlement, chiefly by preventing the old Terns from bringing food to their young (Pinchin). They also had some of their eggs blown out of their nests on June 8th and 9th (Pinchin), about the same time that Mr. Hepburn says the settlement in Kent suffered (Zool., ante,

p. 174). Breeding Terns are very much at the mercy of the weather, and it is not often June and July pass without some havoc happening—high tides sometimes engulf their eggs.

The photograph (Plate II., fig. 2) was taken by Mr. Edward Corder, of Norwich, and represents two nestlings. They have black throats, and are altogether much darker than the nestling Lesser Tern, with which they cannot be confounded.

NIDIFICATION OF THE HERON AND STOCK-DOVE.

Mr. Astley informs me of two Herons' nests at Melton, near Holt, and at Earlham there were seven nests, as against eight in 1902. A few Herons have for the first time nested at Rollesby (Connop), but none at Horning (Bird) or Mautby (Southwell). At Reedham, Mr. Southwell was informed there were eighty-five nests, but I have not been near enough to see more than about thirty, which can be counted from the train.

The only other memoranda of any consequence are an early Long-tailed Tit's nest at Thorpe in March, and three clutches of Stock-Dove's eggs taken in the garden of Northrepps Hall, and hatched under tame Pigeons in an out-door aviary, but only two of the young ones† have grown up to maturity, and they are still alive.

It may be mentioned that Mr. Patterson believes a pair of Greenshanks remained on or near Breydon tidal broad most of the summer. On July 9th he saw five together, of which two were apparently adult, and three young; the notes uttered by the former being perceptibly different from those of the latter. There is no reason, however, to think that Greenshanks have ever bred in Norfolk, although eggs have from time to time been attributed to them. Barren birds of all the *Charadriidæ* occur sometimes in summer. On June 21st Mr. Patterson saw a belated Grey Plover, and shortly after that there were Common Sandpipers on the Little Ouse below Thetford (W. Clarke); but this does not prove nidification, though certainly the Common Sandpiper has once bred at Hickling.

WOOD-PIGEONS AND ROOKS.

July 11th.—Wood-Pigeons attacking the young Swede turnips, and eating the leaf when about three inches out of the

ground, which, combined with lack of rain, was quite sufficient to kill the plant and necessitate a fresh sowing of the field. Rooks are often guilty of the same habits, and between the two the farmer loses considerably. Rooks and Jackdaws have also been very busy making holes in what few wheat-stacks still remain unthreshed, doing a great deal of harm, as they pull out as much as they eat, and let in the rain.

However, I do not wish to take away their character, as Mr. H. B. Dobbie, of Thorpe, has identified in their crops the following larvæ: - Click-beetle, cockchafer, summer-chafer, crane-fly, pea-weevil, bean-weevil, and diamond moth; also slugs, snails, millipedes, woodlice, centipedes, and earwigs, most of which are destructive.

ALLEN'S GALLINULE.

In 'The Ibis' (1903, p. 431), Mr. Joseph Whitaker announces two occurrences of *Porphyriola alleni* in Sicily—one in December, 1902, the other in January, 1903—as well as the capture of a third in North Tunisia in December, 1902. I submit that this is corroboration of the genuineness as a wild migrant of the example taken on a boat at Yarmouth on January 1st, 1902, and already recorded (Zool. 1902, p. 98). It is certainly remarkable that this Gallinule should come at this time of the year to any part of Europe, for it would be more natural to expect its visits late in spring or in the early autumn.

In the 'Avifauna Italica' Prof. Giglioli dwells on the fact of this African Waterhen choosing the winter months in which to visit Europe; and in the 'Primo Resoconto Risultati Inchiesta Ornitolog. in Italia,' i. Avif. Italica, p. 550 (1889), he gives notes on other examples believed to have been obtained in Italy. See also 'Manuale di Orn. Ital.' del Arrigoni degli Oddi, p. 642. All the tribe of Gallinules seem to be wanderers; they are believed to fly high on migration, and thus are probably easily carried away by strong winds, which accounts for their being not infrequently caught at sea.

THE AMSTERDAM ZOOLOGICAL GARDENS.

BY GRAHAM RENSHAW, M.B.

ALTHOUGH well known to continental naturalists, the extensive Gardens which the Society "Natura Artis Magistra" maintains at Amsterdam are not so familiar as they deserve to be to English visitors. Established in 1837, these Gardens are amongst the oldest of European "Zoos," and now extend over twenty-five acres of land, though they commenced modestly enough with a private museum and less than four acres for the menagerie. Repeatedly enlarged to meet its growing popularity, this fine institution was definitely completed in 1882 by the erection of an aquarium building, and will challenge comparison with any of its sister establishments for the richness and scientific value of its collections. The Gardens are pleasantly situated, with the entrance in the Kerk Laan, and are accessible by tramway from all parts of the city.

The visitor may conveniently begin his inspection by studying the Llamas, Alpacas, &c., in their pens near the entrance-gates, and can then pass on to the Deer and cattle-pens adjoining. At the time of my last visit there were four American Bison (*Bos americanus*) on exhibition; the much rarer European Bison (*B. bonasus*) had recently died. Amongst the Deer was a young Moose (*Alces machlis*), his antlers projecting as rounded buds from the side of his ugly shapeless head, and his enormous muzzle twitching with uncouth regularity as he alternately expanded and contracted his nostrils.

A deafening chorus of Parrot voices greeted one's entrance into the bird-gallery. Leadbeater's Cockatoo (*Cacatua leadbeateri*), Jardine's Amazon (*Pæocephalus gulielmi*), Golden Conures (*Conurus solstitialis*—four specimens), Lories and Parakeets of every description, were responsible for this unwelcome uproar; but the long rows of neat cages (their enamelled fronts maintained spotlessly clean by the Dutch keepers) contained

many other birds besides Parrots. The Laughing Jackass (*Dacelo gigas*), a Kingfisher which does not fish, uttered his cheery notes. The Crowned Pigeon (*Goura coronata*) of New Guinea squatted on its straw like a barnyard fowl, or rather like a Turkey, which it rivalled in size. The beautiful Nutmeg Pigeon (*Myristicivora bicolor*), the whiteness of its snowy plumage softened on the head by the faintest tinge of yellow, and replaced on wings and tail by a bold contrast of black, sat contentedly on its perch. The exquisite Cæreba (*Certhiola cyanea*), or Sugar Bird, recalled, in its tiny azure body and curved beak, its near relations, the Sun-birds of Africa. Glossy Starlings (*Lamprotornis* and *Lamprocolius*) figured in the series, their lovely plumage scintillating with varying *nuances* of purple and violet, well set off by their golden eyes; one of these birds was a partial albino, sporting several white feathers on its breast. In an adjoining room a young male Lesser Bird of Paradise (*Paradisea minor*) sat sunning itself, with head turned on one side and expanded drooping wings, as if to present as large a surface as possible to the solar rays. Being only about three years old, it lacked the gorgeous flank-plumes of the adult, though the wire-like shafts springing from the centre of the tail were just bursting their sheaths, and the characteristic straw-yellow feathers were recognizable on the head. This bad-tempered bird kept up a continual screaming if anyone approached its cage, thus displaying the cloven tongue and the bristly projections which studded the roof of its mouth. Mantell's Apteryx (*Apteryx mantelli*), the wingless bird of New Zealand, showed itself as apathetic as the *Paradisea* was vigorous; for, when turned out of bed, it stood stupidly still (pseudo-mammalian in its coat of hair-like feathers), and after a few seconds ran heavily forwards to plunge into its straw.

The Reptile collection included Alligators (*Alligator lucius*)—one very savage specimen—Monitor (*Varanus* sp.) and Heloderm Lizards (*Heloderma suspectum*), Pythons (*Python* sp.), and Boa-Constrictors (*Boa* sp.). One cage contained twenty-six baby snakes (Anacondas—*Eunectes murinus*), a bulge in the anatomy of one of these promising infants indicating the grave of an unfortunate Mouse. In the tank opposite the snakes was a Green Turtle (*Chelone viridis*)—so difficult to keep in captivity—and a

Hawk's-bill Turtle (*Chelone imbricata*). The graceful swimming movements of the latter, the oar-like paddles acting in a diagonal plane with a very free movement from the shoulder, gave a very different idea of the reptile to that usually conveyed by a dried specimen in a museum. Some very fine Grass-Snakes (*Tropidonotus natrix*) were exhibited in a large case provided with a fountain, which trickled over rockwork, green with moss, into a capacious basin—a remarkably pretty and interesting sight. A series of living insects—Swallow-tailed Butterflies of various species, Hawk Moths, Tiger Moths, Silk Moths, Stag Beetles (*Lucanus cervus*), and so on—was kept in this part of the Gardens.

Carnivorous animals are fully represented at Amsterdam, and the well-lighted Lion House, built in 1859, usually contains a good series of Lions and Tigers, Leopards and Pumas. The rare Maned Wolf (*Canis jubatus*) from Brazil was exhibited there during 1899–1902; in spite of its long legs it was a very interesting and beautiful animal, moving about its cage with an elegance that recalled the gait of a Giraffe. Another remarkable beast was a cream-coloured specimen of the Himalayan Bear (*Ursus tibetanus*), an animal which is normally jet-black, with a white mark on the chest. Two examples of the rare Ursine Dasyure (Tasmanian Devil), *Sarcophilus ursinus*—squat little beasts, whose blinking sun-blinded eyes belied their nocturnal ferocity—were in the Small Mammal House when I last visited it; also two splendid Ocelot Cats (*Felis pardalis*), as large as small Leopards, together with a couple of Geoffroy's Tiger-Cats, and a Fettered Cat (*F. maniculata*) from Africa. There was also a fuliginous variety of the Common Phalanger, *Trichosurus vulpecula* ("Opossum" of the Australians), in a beautiful coat of rich brown fur; an American Skunk (*Mephitis mephitis*); and a Paradoxure or Palm-Civet (*Paradoxurus* sp.). A Grison (*Galictis vittata*)—half-Badger, half-Weasel—rushed about its cage very much awake, and screeching excitedly, its voice, on the approach of the keeper, rising into an ear-piercing scream.

The collection of hoofed animals included a pair of the Short-horned Buffaloes (*Bos* sp. ?), which inhabit Southern Asia. These splendid beasts were covered with long shaggy black hair, with

the tail-tassels yellow. Their coat was quite wavy, curling upon the fore legs in little wisps and tags, while the hair situated between the horns of the bull was absurdly parted in the middle, as if it had been brushed by a hairdresser. The Antelope pens contained several Nilgai (*Boselaphus tragocamelus*), including a young bull whose coat was fast darkening to the blue-grey of maturity. There were also a pair of Singing Waterbuck (*Cobus unctuosus*), a Reed-Buck (*Cervicapra arundinum*), an Indian Antelope (*Antilope cervicapra*), and a Leucoryx (*Oryx leucoryx*). A fine Eland (*Taurotragus oryx*) of the now rare unstriped race was specially interesting, by reason of its unequal horns, one of which was curiously curved at the tip; his consort was a young cow of the striped (Livingstone's) subspecies. Both Burchell's (*Equus burchellii*) and the Mountain Zebra (*E. zebra*) were represented in the equine portion of the collection, as was also the Shetland Pony! In the Hippopotamus House one of the inmates (*Hippopotamus amphibius*) was tame enough to come up to the railings for a piece of bread, rearing itself up with both fore feet planted on the parapet like an enormous Pig, and eating the bread with a remarkable sighing noise at each bite, as if its respiration was slightly impeded.

There were several Porcupines (*Hystrix cristata*) amongst the rodents in the Amsterdam Collection, and these, when gathered together round their food, produced a most curious effect on the eye by reason of their waving manes, and the long white quills, which swayed continually, recalling a clump of reeds agitated by the wind. Hard by a Prairie-Dog (*Cynomys ludovicianus*) was seen busily scratching out the earth with his fore paws, and throwing it backwards between the widely straddled hind feet. A white Hedgehog (*Erinaceus europæus* var.), some beautiful black and cinnamon Squirrels (*Sciurus prevosti*), and a couple of Spotted Pacas (*Coelogenys paca*) inhabited this part of the Garden. An Armadillo (*Dasypus villosus*) scuttled rapidly over the ground like a Woodlouse in its coat of mail, and not far away a red Kangaroo (*Macropus rufus*) dozed in the sunshine, its Deer-like head poised gracefully on the elongated neck.

The beautifully appointed aviaries are a pleasing feature at Amsterdam. One of them contained Toucans (*Rhamphastus* spp.), Jay-Thrushes (*Garrulax* spp.), Troupials (*Icterus*), and Glossy

Starlings, the metallic plumage of the latter making a charming feature against the tender green foliage amongst which they perched. Another aviary sheltered a collection of tinamous (*Crypturus*) Partridge-like birds from South America, and also an African Ground Hornbill (*Bucorvus abyssinicus*), which could whine like a spoilt child, and a Celebean Maleo (*Megacephalon maleo*). The Maleo is very rare in European "Zoos"; about the size of a small Turkey, it is remarkable for the knob-like excrescence on its head, for its breast delicately tinted with salmon-pink, and for its habit of burying its eggs in the hot sand to be hatched by the sun. The Golden Eagle (*Aquila chrysaëtus*), the Harpy Eagle (*Thrasaëtus harpyia*?), the Angola Vulture (*Gypohierax angolensis*), the Condor from the Andes (*Sarcorhamphus gryphus*), the Collared Owl (*Syrnium torquatum*) from Surinam, and the vulturine Guinea-Fowl (*Acryllium vulturinum*) from East Africa were but a few amongst many very interesting birds in this magnificent collection. Amsterdam is remarkable for the liberal amount of space which is allowed to the Water-Birds; the Waders have a special aviary of their own, where the scarlet coat of the American Ibis (*Eudocimus ruber*) glows like a live coal amid the greenery; and the beautiful Sacred Ibises (*Ibis æthiopica*), blue-black and snow-white, hatch their eggs and rear their young.

In concluding this account of the Amsterdam Zoological Gardens, it may be mentioned that only a few of the features of this flourishing establishment have been herein indicated. The excellent museum of stuffed animals, with its many rarities, such as the true Quagga (*Equus quagga*), which once lived in Lord Derby's famous menagerie at Knowsley Hall; the well-filled library; the aquarium; the museum of preserved reptiles; all merit special study. An Englishman visiting these Gardens will find much to instruct, amuse, and delight him for hours, days, or even weeks, according to his temperament and his love for natural science. *Crede experto!*

OBITUARY.

ROBERT McLACHLAN.

THIS well-known entomologist died at Lewisham on May 23rd, in his sixty-seventh year. He was born on Tower Hill, where his father for many years pursued the occupation of a marine optician, eventually retiring from business with a competency, which was inherited by his sons, and which enabled our deceased friend to escape the cares and responsibilities of earning an income.

If, however, he was not a self-made man in a financial sense, he had the honour of being largely so in an educational direction, for we have heard him remark that had he not studied entomology, he would have known no other language than his own. We first met him nearly fifty years ago, after his return from a voyage to Australia and China in a sailing-vessel belonging to the family interest. He had not then prominently attached himself to entomology, which he afterwards did while enjoying the friendships of J. W. Douglas and the late H. T. Stainton.

Robert McLachlan possessed an unique personality, and, being of a strenuous disposition, exercised no little influence on the course of British entomology. He joined the Entomological Society in 1858, and subsequently held the successive offices of Secretary, President, and Treasurer. In the last position his essential business capacities were of real value to the Society, and he proved a model Treasurer, who will be much missed. It is probable that no member of the Society held a more important view of its functions than did Mr. McLachlan; he was always assiduous in his attendance at its meetings, and what was remarkable, seemed to know more than a little about every one of its members. He was not only one of the founders of the 'Entomologist's Monthly Magazine,' which has now reached its fortieth annual volume, but he was the guiding and dominant

spirit of that excellent publication, which he directed with an intense sense of responsibility, as was observed in all his other undertakings. Although perhaps not a brilliant man, he was a learned entomologist, and without doubt was one of the most capable all-round entomologists since the death of Prof. Westwood. He possessed a retentive memory, and his knowledge of entomological writings was profound; in fact, one often thought that he must have read every entomological paper as it appeared, and thus have had little time for perusing other topics. As an author, he will be remembered by his 'Monographic Revision and Synopsis of the Trichoptera of the European Fauna,' and he recently contributed a few ornithological notes to 'The Zoologist.'

With Robert McLachlan a very distinct personality has passed away. If he did not always make friends, those who knew him intimately held him in high regard.

NOTES AND QUERIES.

MAMMALIA.

Varieties of Polecat and Badger.—When visiting Aberystwith a few weeks ago, I saw, at the shop of Mr. Hutchings, the taxidermist, a curious variety of the Polecat. It was entirely of a very light brown colour, and devoid of the usual facial markings. It was killed on the edge of Tregaron Bog in March, and about twelve months earlier another exactly similar specimen was obtained on the opposite side of the same bog. I may mention that Polecats are still numerous in the locality. Early in May I saw, at Mr. Coolse's, Shrewsbury, a half-grown Badger, just received for preservation from Worcester. It was a most peculiar colour; all those parts which are usually grey or black (including the eye-stripe) were of a fawn or light brown hue, and even the white parts were slightly suffused with the same tint. The Badger is so little subject to variation that this example is specially noteworthy.—H. E. FORREST (Hillside, Bayston Hill, Shrewsbury).

AVES.

Early Nesting of the Lesser Whitethroat in Surrey.—On May 8th, in a lane not far from Leatherhead, I found two nests of the Lesser Whitethroat (*Sylvia curruca*) with the full complement of eggs, viz. five each. I also found in the same lane three nests ready for eggs. My previous earliest note is May 16th, with five eggs. In each case incubation had not commenced. I am pleased to say that of late years this bird has increased considerably both in Kent and Surrey. I may mention that the hedges of a neighbouring lane, which these birds also frequented, have been cut down, consequently they have been driven to the lane mentioned. — P. F. BUNYARD (57, Kidderminster Road, Croydon).

White Wagtails on Bartragh.—It may interest some readers of 'The Zoologist' to learn that *Motacilla alba* has paid its usual spring visit to the island of Bartragh this season, my friend Capt. Kirkwood having observed a little flock of six birds on May 10th; but these remained to rest for only a few hours, and then resumed their northern flight. On the 13th he saw a solitary bird, which he kindly shot for me, as I required

it for the collection of the Belfast Museum. These birds were seen on their usual haunt—the damp sandy pasture outside the Bartragh garden—where they are always to be met with when visiting the island. They have now been known to visit Bartragh every spring for seven years in succession, regularly appearing in April or May, almost always after or during high northerly winds, which evidently delay their flight, causing them to drop down on Bartragh to rest for a few hours before continuing their northerly course. The numbers seen vary very much. Some seasons only one or two birds seen, occasionally five or six, but one season (that of 1898) a flock of fifteen birds was observed, and these only rested for three or four hours, and then resumed their northern flight.—ROBERT WARREN (Moyview, Ballina).

An unrecorded Occurrence of the Scarlet Grosbeak.—A specimen of the Scarlet Grosbeak (*Pyrrhula erythrina*) is preserved in the collection of stuffed birds at Maesllwch Castle, Glasbury-on-Wye, where I had the pleasure of inspecting it upon May 5th. It is a male in full plumage, and shows no indication of having been in confinement. I am informed that it was shot about thirty years since by a gamekeeper named Sharp, then living at a place called Higherland, upon the Grouse-moors near Painscastle, Radnorshire. Sharp, who is still living, states that he saw the bird on the hill about a mile beyond Glascombe, and that he believes it was in the spring.—J. H. SALTER (University College, Aberystwyth).

Moorhen's Egg in Nest of Magpie.—While out sacking Magpies' nests on April 30th with my brother, I came across a Magpie's nest up a thick thorn-hedge, about one hundred yards from a small stream, while on the other side of the hedge there was a small pool. After getting up to it, and putting my hand in, to my surprise I felt one egg much larger than the others, and this turned out to belong to a Moorhen. As there were also three ordinary Magpie's eggs in the nest, this must have been deposited by the Moorhen, as it was obvious no one had been up to the nest previously. I should be glad to know if this has ever been heard of before. We have never seen it, although we have taken some three hundred nests in similar country at the foot of the Clee Hills in Salop.—G. TOMKINSON (Franchise Hall, near Kidderminster).

Ornithological Notes made on a Trip to the West Indies.—

Lat. 23° 11' N., long. 30° 39' W., Jan. 23rd.—At 7 a.m. a bird much resembling a Little Egret (*Ardea garzetta*) was seen to fly over the bows of our ship, hovering round it for a few minutes, and then flew off due

west. At the time we must have been about nine hundred miles from the nearest land. This bird is stated by Cory to inhabit the Bahamas and Greater Antilles. It is also found in Africa, but I cannot find any satisfactory explanation for its being found so far from land. Unfortunately I cannot certify to its being *Ardea garzetta*, not being sufficiently conversant with the bird to enable me to identify it without doubt, but, so far as my knowledge goes from the many similar descriptions given me, I should put it down as a Little Egret.

Lat. 15° 54' N., long. 66° 28' W., Feb. 7th. — Between Martinique and Jamaica, in the Caribbean Sea, I noticed Greater Shearwaters (*Puffinus gravis*) in large numbers. They were flying in flocks, passing at intervals of about an hour, in an easterly direction. Most of the flocks were long and straggling, in one of which I counted one hundred and sixty birds, covering about a quarter of a mile of sea. Now and again they would mount and wheel round high overhead, then suddenly drop and resume their previous mode of progression. I never actually saw them plunge into the water, but at the time they created a great commotion among the Flying Fish, which were very numerous. Some of the flocks passed within several hundred yards of the boat, but seemed to take very little notice of it, none following in its wake, as do the Gulls, to feed upon the scraps thrown overboard. This fact is also mentioned by Mr. Bowdler Sharpe in his 'Handbook of British Birds,' vol. iv. It is, I believe, somewhat unusual to find this bird in large flocks. Mr. Bowdler Sharpe states that "sometimes half a dozen may be seen together, but more often they are in pairs." The identification of these birds is almost certain, their large size, together with white breast and short tail, making them easily recognizable with a good glass at so short a range.

GIBRALTAR, March 1st.—In the harbour here I noticed, amongst a large gathering of Gulls, one specimen of the Mediterranean Black-headed Gull (*Larus melanocephalus*), which was also recognized by an eminent ornithologist on board, but of course I could not obtain the bird. This Gull is not often seen in the harbour, and is seldom found to the west of Malaga, its place here being taken by *L. ridibundus*.

BAY OF BISCAY, March 4th.—While crossing the bay a flock of about twelve Meadow-Pipits (*Anthus pratensis*) followed our boat. As evening came on they settled on board, worn out with fatigue. They were quite tame, and allowed themselves to be caught by hand. They seemed badly in need of water. Several of these little birds remained with us until we reached Plymouth, resting on the boat by night, and by day flying on the lee-side of the ship. This is a somewhat early

date for Meadow-Pipits to be seen. I also thought I saw a Wagtail, but of this I am not sure.—D. A. BANNERMAN (Guildford).

Ornithological Notes from Shetland.—

SHORT-EARED OWL (*Asio accipitrinus*).—A good many seen during the winter.

SNOWY OWL (*Nyctea scandiaca*).—One, immature, Nov. 13th, 1903; one, quite white, reported to me from Haroldswick, Nov. 17th, 1903.

WHOOPEE SWAN (*Cygnus musicus*).—A few passed south, 11 a.m., Oct. 25th, and at 8 p.m., Nov. 28th, 1903. Five passed overhead in a northerly direction at 6 p.m. on March 24th, 1904. Heard overhead, flying north-west, 11.30 p.m., April 29th, 1904.

SMEW (*Mergus albellus*).—Two at Baltasound, Oct. 30th, 1903. These are the only ones I have ever seen in Shetland.

ROSE-COLOURED STARLING (*Pastor roseus*).—One—the only one I have ever seen alive—in the garden at Halligarth, on Nov. 6th, 1903; it was sitting on a branch of a mountain-ash, and I had a good look at it.

WAXWING (*Ampelis garrulus*).—My little girl found the remains of one hanging in the honeysuckle in front of my house, Nov. 12th, 1903. Judging by its appearance, it had hung for about a fortnight.

GLAUCOUS GULL (*Larus glaucus*).—A few seen during the winter.

WOODCOCK (*Scolopax rusticula*).—One at Burrafirth, Feb. 12th, 1904. Many reported from near Lerwick about the same time.

JACKDAW (*Corvus monedula*).—One at Haroldswick along with some Rooks, Feb. 14th, 1904. One at same place, March 9th, 1904.

SONG-THRUSH (*Turdus musicus*).—One at Halligarth, March 5th and March 9th, 1904.

CHIFFCHAFF (*Phylloscopus rufus*).—A good number from April 15th to 26th, 1904.

BRAMBLING (*Fringilla montifringilla*).—A great many from April 16th to May 27th, 1904.

WILLOW-WREN (*Phylloscopus trochilus*).—Many, April 19th. A few still about Halligarth, May 27th, 1904.

SISKIN (*Carduelis spinus*).—At least two, April 19th, 1904.

WHITE WAGTAIL (*Motacilla alba*).—One shot at Haroldswick, April 25th, 1904.

HAWFINCH (*Coccothraustes vulgaris*).—One, a female, brought to me alive on May 3rd, 1904. So far as I am aware, this is the only record for Shetland.

LITTLE GULL (*Larus minutus*).—One at Nyrasound, May 3rd, 1904.

BLACKBIRD (*Turdus merula*).—Not so plentiful as usual; four birds hatched May 10th.

CUCKOO (*Cuculus canorus*).—Heard at Baltasound, May 20th, 1904. T. EDMONDSTON SAXBY (Halligarth, Unst, Shetland).

Aberdeen: Migration Notes for April. — Wheatears (*Saxicola ænanthe*) were seen on April 8th; numerous Ring-Ouzels (*Turdus torquatus*) on April 13th. The Dunlin (*Tringa alpina*) I heard on the evening of April 29th. A point worth noting is that one of these birds has appeared at my mill-dam, and very tame. Would this be the bird which took to the surroundings of the farm-steading last year before they departed? I fancy so, as it frequents the same places, but I had not marked it.—W. WILSON (Alford, Aberdeen, N.B.).

NOTICES OF NEW BOOKS.

Sir William Henry Flower, K.C.B., F.R.S., &c. A Personal Memoir. By C. J. CORNISH, M.A., F.Z.S. Macmillan & Co., Limited.

THIS volume is well described on the title-page as "A Personal Memoir," and in its plan and conception reminds us strongly of the life of Louis Agassiz, which was written by his widow. Mr. Cornish remarks in his preface that if "the personal element is accorded rather more space than might have been expected in a memoir of a distinguished man of science, and any critic cares to press this point, the writer is prepared to say *mea culpa*." There is some truth in this suggestion. After reading the book we only receive the impression of an appreciation (to use a word now much in use for biographical notice) of a most amiable gentleman, an accomplished director of a great museum, a mover in the very best society, and a good broad churchman. But Sir William was a greater man in biological science than Mr. Cornish seems to suspect; as a naturalist, and especially as an anthropologist, his great work is capable of analysis, and its importance not difficult to define. The "List of his Published Writings," without comment, might give simply an idea of industry, and affords little clue to his life-work, while he was more than the famous director of a great museum, and had made his mark outside.

In perusing these pages one is frequently forced to ask—does Society afford a help or hindrance to a man of science? The work of Sir Wm. Flower lay in one direction; he was entrusted with a talent of considerable value, his constitution was not robust, and he voluntarily took on much social fatigue. We like to remember him as a great zoologist, among his dead animals, rather than among the live lords, and though the index to the volume is an awe-inspiring list of eminent names, we wish it referred more to the subject-matter which really dominated an eminent scientific career.

Eleanor Ormerod, LL.D., Economic Entomologist. Autobiography and Correspondence. Edited by Prof. R. WALLACE. John Murray.

WE have already (Zool. 1901, p. 310), in paying our tribute to the memory of Miss Ormerod, dealt largely with many personal details, but the present volume adds considerably to our knowledge of a happy and useful life. Miss Ormerod had many advantages; she possessed a particularly attractive personality; was an enthusiast in her life-work; and was possessed of ample means to carry on an economic and entomological propaganda which could rely on no funds or pecuniary assistance of any kind. She represented personally and unaided in England what constitutes a government bureau in the United States.

The charm of this volume will be found in the few chapters of personal reminiscences contributed by the deceased lady herself. They constitute a sketch of life in provincial England which is now rapidly becoming a story of the past, and which has been immortalised by George Eliot. The larger part of the publication is occupied by her correspondence, which, like all similar material, is unequal in value, at least to those who are conversant with her entomological annual reports. We heartily welcome an important addition to the lives of British naturalists.

EDITORIAL GLEANINGS.

MR. WM. S. MARSHALL has sent us the following most interesting account of the processionary habits of the larvæ of a North American Moth (*Hemileuca maia*). His original communication appeared in the 'Biological Bulletin' of the Zoological Laboratory, University of Wisconsin, May, 1904.

"In the autumn of 1901, while collecting along the marshy shore of Lake Wingra, near Madison, I noticed many specimens of the Maia- or Buck-Moth (*Hemileuca maia*) flying low over the marsh. Both males and females were present, and many of the latter, having settled, were laying their eggs on the grass. These were placed in a somewhat irregular set of spirals closely packed together, so that when they hardened the grass could often be pulled away, leaving the eggs stuck together, and forming a short tube. The process of oviposition and the arrangement of the eggs has been described by Riley,* and copied by Packard.†

"Without having any definite plans in view, I collected a great many of the eggs, most of which I put in a cold place, but a few I left in an open bottle in my room. One morning I noticed on the neck of this bottle a black mass, which was found to be a group of young caterpillars; they had evidently hatched but a short time before. Later in the morning I again looked at the eggs, and found that more had hatched; all in the first bunch, having in the meantime left the bottle, were marching in a line on the table. Again, later in the day other groups were seen, and in nearly every instance each group had formed a line, marching in a regular procession, and following the leader whichever way he turned. I placed some large sheets of paper on the table; upon these the different groups were soon marching, and could be much more easily seen than when upon the darker table. I now, with a pencil, knocked the leader away from one line, and was surprised to see the next in the line, now the leader, stop when he reached the place occupied by the first leader prior to his removal.

* Riley, C. V., 'Fifth Missouri Report,' p. 128.

† Packard, A. S., 'Insects Injurious to Forest and Shade Trees,' Washington, 1890.

Here he stopped, and, raising himself upon his prolegs, moved the anterior part of his body to and fro, as if he were trying to scent the leader. He soon discontinued this, and resumed his natural position again, appearing, however, for some time very restless. While this had been going on the rest of the caterpillars had crowded up to the front one; they appeared for some time very restless, but finally settled in a close bunch, in which position they all remained. One here and one there would often become restless for a few minutes, but end by settling again in its former position in the bunch. I now marked the original leader (he had been kept away from the others all of this time) by putting a little white paint on his back, and then, picking him up on a small piece of paper, dropped him back at the edge of the group. The leader in the meantime had been walking around, evidently seeking the other caterpillars, and when he returned to the bunch began to walk restlessly around near its edge. In a few minutes he started off away from the others, and these began to follow him, moving in a regular procession.

"Different masses of the eggs were now brought into my room, a few each week, and when the caterpillars hatched a few experiments were carried on to see if the removal of the leader always affected the followers in the same way, and if a new caterpillar would not assume the leadership, and be followed by the rest. The results I have thought it best to write out briefly, and not to arrange them in a tabulated form. The first set contains those in which the old leader, upon being returned to the bunch, resumed command; and the second lot, those experiments in which a new caterpillar became the leader. There then follow a few experiments differing from those contained in the first two lots. When the number of caterpillars forming the line was counted, this is given; but in some cases, however, the number which formed the line was not noted.

"In nearly every instance the removal of the leader brought about at first the same result. When I removed him I would draw a line on the paper, marking a place where his head was before removal. When the second caterpillar in the line reached this point, he always stopped, rarely crossing the line; and when the bunch was formed it was always back of the line.

"1. Sixty-four in line. 8.15, leader removed; 8.30, all bunched; 8.31, leader returned; 8.35, all restless; 9.00, leader started, and at 9.08 all were in line and moving.

"2. Six in line. 8.45, leader removed, others soon bunched; 8.51, leader returned; 8.57, old leader started, others following.

"3. 8.47, leader removed; 8.50 all, bunched; 8.51, leader

returned; he passed to back of bunch and started away, others following; 8.43, all in line.

"4. Ten in line. 8.31, leader removed, and all bunched one inch back of line; 8.36, leader returned; 8.55, leader starts, and others follow.

"5. 8.57, leader removed and put back at once, seventh in the line; all bunched; 4.06 p.m., leader started, others following.

"6. 8.16, leader removed; 8.26, leader returned; 8.31, leader started, others following.

"7. 8.21, leader removed; a caterpillar, the next in line, goes on half an inch, and here they all bunch; 8.30, leader returned; 8.42, leader starts, and others follow.

"8. 2.32, leader removed; 2.47, leader returned to bunch; 3.55, leader started, others following.

"9. One hundred and fifty in line. 10.22, leader removed; 10.40, bunched, and leader returned; 11.25, leader started, and others followed.

"The following are experiments where a new leader started:—

"1. Forty in line. Leader removed; 9.10, bunched; 9.11, a caterpillar at back of bunch starts, and others follow.

"2. Twenty-one in line. 9.01, leader removed; 9.08, bunched; 9.10, one near front starts; 9.21, all in line, following new leader.

"3. Eighteen in line. 8.50, leader removed; in a minute the next caterpillar turned and started; 8.55, all in line, and following new leader.

"4. Thirty-six in line. 8.42, leader removed, and the next caterpillar assumes leadership; 8.47, new leader removed, and original one put back in middle of line; all bunch; and at 4.08 p.m. were still quiet.

"5. Eighteen in line. 8.30, leader removed; 8.37, bunched; one went a short distance over the line, but returned; leader returned; 8.46, new leader started, and others follow.

"6. Eleven in line. 8.38, leader removed; 8.41, next caterpillar returned along the line two inches, and then came back; others bunched; 8.45, start with new leader.

"7. Ten in line. 10.34, leader removed; line kept on; 10.39, second leader removed; march continued; 10.40, third leader removed; 10.42, bunched; 10.48, started with the original leader, who had been returned, at head.

"8. 8.13, leader removed; 8.22, leader returned; 8.56, new leader started, others following.

"9. 2.56, leader removed ; 3.05, leader returned ; 4.05, new leader started, and others follow.

"10. Forty-six in line. 9.24, leader removed ; 9.33, all bunched ; leader returned ; 10.05, new leader starts, and others follow.

"11. One hundred and twenty in line. 8.41, leader removed ; when the entire line had bunched the leader was returned ; 11.45, new leader starts, and others follow.

"12. One hundred and fifty in line. 8.43, leader removed ; 9.25, mostly bunched, and leader returned ; 10.10, old leader started, rest following ; they went more than an inch, and then returned to bunch again ; 2.30 p.m., a new leader starts, and others follow.

"The following experiments were made by removing the leaders of two lines, and then returning them each to the other's bunch :—

"A. Six in line. 2.02, leader removed ; 2.06, bunched ; leader of A' placed near head ; 2.08, leader of A' starts, and others follow.

"A'. Thirty-two in line. 2.02, leader removed ; 2.07, leader of A placed in bunch ; 2.11, one, not the leader, started, but returned ; 2.35, leader of A starts, and others follow.

"B. Thirty-two in line. 1.56, leader removed ; when others bunched, leader of B' placed with them ; 2.18, leader from B' starts, and others follow.

"B'. Thirty-five in line. 1.56, leader removed, and leader of B placed in bunch ; 2.03, leader of B starts, and others follow.

"C. 1.22, leader removed ; 1.27, leader of C' placed in bunch ; 3.20, line starts with entirely new leader.

"C'. 1.22, leader removed ; 1.27, leader of C placed in bunch. Called away, and unable to follow this to end.

"The following experiments I give separate from the others :—

"1. 8.24, leader removed ; 8.33, leader returned, and at once started out, the other caterpillars remaining in bunch ; 8.38, leader returned again ; 8.42, he starts out again, but none follow ; in two minutes he returns to the bunch himself, and starts a third time ; this time some follow, but soon return to bunch, and leader goes off by himself.

"2. Eighteen in line. 8.32, leader removed ; 8.38, bunched ; leader returned, and they remained in bunch all morning.

"3. Thirteen in line. Same thing happened as in No. 2.

"In one lot, thirty-six in line ; the leader had been marked, and the line allowed to go on. The leader reached the last caterpillar in the line, so that a circle was formed. They all kept moving, the leader finally reaching the place where he was when the circle was

first formed ; he then went half-way around the circle, and started off in another direction, the others following.

“ From the above it will be seen that the removal of the leader affects the whole line, but that he is not necessary for the further progression of the caterpillars. I have been unable to find references to the procession-caterpillar, but notice that the caterpillars of *Saturnia io** march, when young, the same as the Maia-moth.

“ Dubois† notes that the procession-caterpillar spins a thread which the others in the line follow ; the young larvæ of *Hemileuca* do the same, the thread being seen, with a hand lens, back of the line. In nearly all the long lines which the larvæ form, there is very apt to be at least one break where there is an inch or more between the nearest caterpillars, or such a break can be made by stopping one of the larvæ until the preceding ones have gone ahead for same distance ; at such a place the thread also can be seen. When a break occurs, it does not in any way affect the movements of the line, the caterpillars following along the regular path.

“ Wishing to see how much the caterpillars depended upon this thread to enable them to follow in the exact path of the leader, I removed the thread a number of times when the distance between two neighbouring caterpillars was great enough, and found that the course was not in the least altered. The caterpillars, upon reaching the end of the broken thread, generally kept straight on as if nothing had been done, failing to show a dependence upon the thread alone in following the path of those ahead. I next removed the thread, and then, dipping a finger in water, rubbed it rapidly a number of times across the path, and then wiped the place dry. When the first caterpillar reached this spot he halted, and for three minutes remained at the same place, raising the anterior part of the body in the air, acting the same as if the leader had been removed. At the end of this time he started forward, following, as near as I could judge, the original path.

“ The following few experiments should have been made with the food-plant of the caterpillar, but this being unobtainable at the time of the year when the caterpillars were hatching in my room, the leaf of the geranium (*Pelargonium*), which was easily obtained and possessed quite an odour, was used.

“ 1. A small piece of the leaf was placed 5 mm. away from a small group which had been quiet for two or three hours ; the caterpillars became at once restless, and in two minutes three had moved over and touched the leaf.

* Dickerson, Mary C., ‘ Moths and Butterflies,’ 1901.

† Dubois, ‘ Ann. Soc. Linn. Lyon.’ xli. 1900, p. 125.

"2. A small piece of the leaf was placed 5 mm. away from the leading caterpillars in a line; they became at once restless, and "broke rank"; in four minutes two (not the leader) had reached the leaf.

"3. A piece of leaf was placed 15 mm. from a group—nothing happened; the leaf was moved to 10 mm. and left for ten minutes—nothing occurred; moved to distance of 5 mm. from caterpillars, and all still remained quiet. I now moved the leaf to 3 mm. away; one immediately came out, touched the leaf, and returned to its original position; in thirty seconds another came out, touched the leaf, and returned.

"4. A piece of leaf was placed 5 mm. from group; two came out, touched it, and returned."

Madison, February, 1904.

ORNITHOLOGISTS' UNION FOR SOUTH AFRICA: A SUCCESSFUL START.—

"At six o'clock a number of gentlemen met in the Normal School, Pretoria, in response to a circular letter issued by Mr. A. K. Haagner. The object of the gathering was to form an Ornithological Union for South Africa, and the attendance, and number of letters received on the subject, proved that the time was a most opportune one.

Mr. W. L. Sclater, M.A., F.Z.S., presided, and representatives from all the South African Colonies were present. Mr. Sclater opened the proceedings by calling upon Mr. Haagner to read his report on what had been done. The report showed that forty gentlemen interested in the subject had sent in their names. These were divided amongst the Colonies as follows:—Transvaal, twenty-one; Cape Colony, twelve; Natal, four; Orange River Colony, two; Rhodesia, one.

Dr. Gunning, F.Z.S., proposed that an Ornithologists' Union for South Africa be formed, and that a committee be appointed to draw up rules, and to inquire into and report upon the possibility of publishing a journal. This was seconded by Mr. J. A. Bucknill, M.A., of Pretoria, and carried unanimously.

The Committee elected was as follows:—Mr. W. L. Sclater, M.A., F.Z.S. (Director, South African Museum, Capetown); Dr. J. W. B. Gunning, F.Z.S. (Director, Transvaal Museum and Zoological Gardens, Pretoria); Mr. J. A. Bucknill, M.A., Pretoria; Mr. A. D. Millar, Durban; Mr. W. Macdonald (Editor, 'Transvaal Agricultural Journal'), Pretoria; Mr. J. A. Alexander, F.R.S. Edin., Johannesburg; and Mr. A. K. Haagner, M.B.O.U., Modderfontein, Hon. Sec. *pro tem*. It was decided to leave the framing of rules and election of officers to a subsequent meeting.

Mr. W. L. Sclater then read an interesting paper on the history of similar societies, and the early South African pioneers of ornithology.

After a hearty vote of thanks to the chairman the meeting terminated."—*Transvaal Leader*, April 9th, 1904.

IN the 'Transactions of the Hull Scientific and Field Naturalists' Club' for 1903 is an interesting note on the "Dispersal of Shells by Beetles," by the Rev. E. P. Blackburn:—

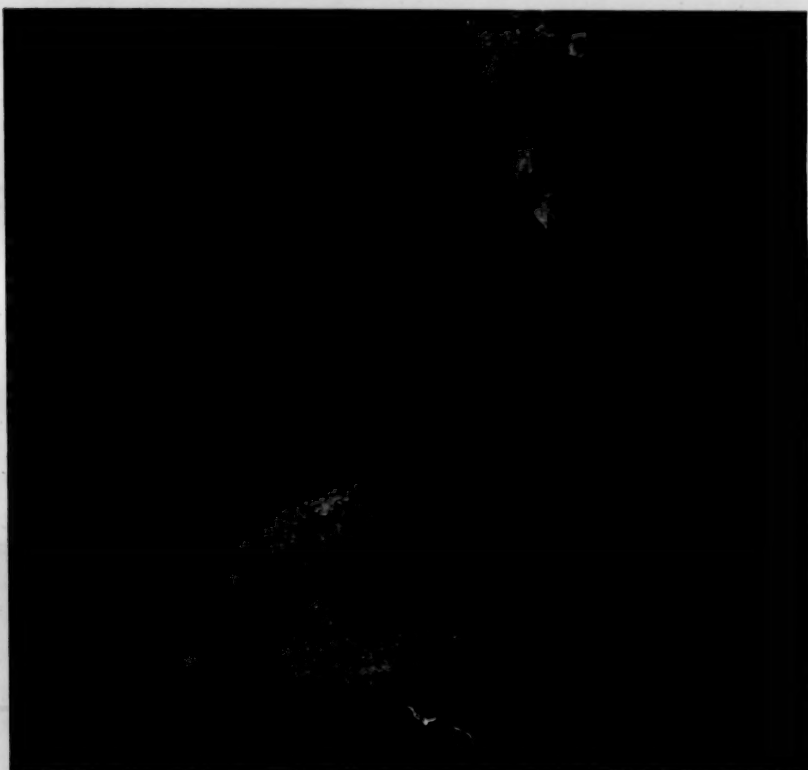
"Early in August, 1903, a small party of conchologists visited Tibthorpe Wold, to the west of Driffeld. Near Mr. Piercy's farmhouse, at a height of nearly 400 ft., is a pond, the nearest water to which is half a mile away, and the next a mile away. It has been in use for some time, but, in common with other ponds on Sir Tatton Sykes' estate, is frequently cleaned out, and consequently did not appear very productive from a conchologist's point of view. About six years ago it was entirely emptied and relined. Application of the scoop, however, quickly brought up a host of *Pisidia*, with which the pond swarmed on one side, together with a number of small water-beetles, water-boatmen, and water-bugs. A few *Limnæa peregra* were put in the pond a year ago, but had not survived for want of food. Several of the beetles were observed with something on their feet in the pond, but it could not exactly be seen what. The *Pisidia* were brought home, and put in a basin with their native mud, and it was found that a number of water-bugs (*Corixa*) and beetles had been brought along with them. The next day we saw a bug (*Corixa*) in the bowl caught by the foot with a *pisidium*. A day or two later I was examining the contents of the bowl, and found three others caught. I killed the insects, and gummed them on a piece of paper. No. 1 had two *Pisidia* on two back legs. No. 2 had three shells attached, one a fairly large one. No. 3 is more perfect, and has two shells, one on each side. Two days later I found a lively little water-beetle caught, but he managed to get free. A fourth specimen, however, was secured with one *pisidium* attached. Wallis Kew (in 'The Dispersal of Shells'), after explaining how ponds, similar to the above, are stocked with *Pisidia* by means of flying insects, animals, &c., says:—'Some of our common water-boatmen are probably even stronger than the Nepa, or water-scorpion. I have once or twice seen them alight upon the surface of the ponds in the sunshine, fold their wings, and disappear in the water.' With the specimens above mentioned, it is quite plain that ponds may be stocked very easily in the way described."







ORKNEY VOLE. *Microtus orcadensis*, Millais.



COMMON FIELD-VOLE. *Microtus agrestis*.

Cf. p. 241.